Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	)	
	)	
Petition for Rulemaking of the	)	WT Docket No. 09-217
National Public Safety Telecommunications Council	)	

COMMENTS OF AMERICAN MESSAGING SERVICES, LLC AND AMS SPECTRUM HOLDINGS, LLC

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SUMMARY

American Messaging Services, LLC and its wholly-owned subsidiary AMS Spectrum Holdings, LLC (collectively "AMS") oppose the Petition for Rulemaking filed by the National Public Safety Telecommunications Council ("NPSTC")[1] that urges the Commission to conduct an audit of commercial use of Narrowband Personal Communications Service ("NPCS") spectrum, and to reclaim and reassign to public safety entities spectrum that is unused or lightly used. NPSTC's proposal would undermine the Commission's spectrum auction program, introduce uncertainty into the license valuation process, discourage investment in licenses, and could have unintended negative consequences including uneconomic network build-out or fire sales to avoid the loss of previously licensed areas. Further, NPSTC fails to demonstrate that the public safety community needs this additional spectrum, or that it has the resources necessary to deploy the types of networks or services that the Petition claims public safety organizations want. Finally, AMS notes that commercial operators already are providing the services described in the Petition as being desired by the public safety community in many areas.

[1] Petition for Rulemaking of the National Public Safety Telecommunications Council, filed October 1, 2009 (the "Petition").

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To: Chief, Wireless Telecommunications Bureau

COMMENTS OF AMERICAN MESSAGING SERVICES, LLC AND AMS SPECTRUM HOLDINGS, LLC

American Messaging Services, LLC and its wholly-owned subsidiary AMS Spectrum Holdings, LLC (collectively "AMS")[2] hereby submit these comments in response to the Wireless Telecommunications Bureau's (the "Bureau") Public Notice[3] issued in the above-referenced docket. AMS is the second largest messaging and paging services provider in the United States with 1.2 million customers. AMS operates over nationwide frequencies in addition to numerous regional and local frequencies with coverage in 98 of the top 100 major metropolitan areas and in all 50 states. AMS offers a variety of services to meet the narrowband data needs of organizations of all sizes. Its services range from traditional paging to innovative products and services over its narrowband data spectrum including superior emergency mass alert services in support of public safety, and intelligent remote control services to assist in the management and preservation of energy resources.

[2] AMS Spectrum Holdings, LLC is a recently-created subsidiary of American Messaging Services, LLC, and holds the paging and narrowband personal communications service ("NPCS") licenses formerly held by American Messaging Services, LLC.

[3] *Public Notice: "Wireless Telecommunications Bureau Seeks Comment on Petition for Rulemaking of the National Public Safety Telecommunications Council,"* WT Docket No. 09-217, DA 09-2528, rel. Dec. 3, 2009 (the "Public Notice").

AMS opposes the Petition for Rulemaking filed by the National Public Safety Telecommunications Council ("NPSTC")[4] that urges the Commission to conduct an audit of commercial use of NPCS spectrum, and to reclaim and reassign to public safety entities spectrum that is unused or lightly used. NPSTC's proposal would undermine the Commission's spectrum auction program, introduce uncertainty into the license valuation process, discourage investment in licenses, and could result in unintended negative consequences including uneconomic network build-out or fire sales to avoid the loss of previously licensed areas. Further, NPSTC fails to demonstrate that the public safety community needs this additional spectrum, or that it has the resources necessary to deploy the types of networks or services that the Petition claims public safety organizations want. Finally, AMS notes that commercial operators already are providing the services described in the Petition as being desired by the public safety community in many areas, and AMS is eager to continue working with the public safety community to meet its service needs. The following is respectfully shown:

NPSTC'S PROPOSAL WOULD UNDERMINE THE INTEGRITY OF THE FCC'S AUCTION PROCESS, THE SECONDARY MARKET, AND RATIONAL NETWORK DEPLOYMENT

AMS supports the public safety community and agrees that public safety organizations should have the tools and resources necessary for them to effectively accomplish their missions. NPSTC's proposal, however, would not provide the public safety community with the services the Petition describes as being desired, and at the same time would undermine the Commission's auction process and the secondary market

[4] Petition for Rulemaking of the National Public Safety Telecommunications Council, filed October 1, 2009 (the "Petition").

for spectrum acquisition, and could result in unintended consequences that adversely effect how carriers build-out their networks.

Essentially, NPSTC is proposing to impose an enhanced version of "keep-what-you-use" on NPCS licensees. NPSTC proposes that NPCS carriers relinquish not only spectrum that is unused in a particular area, but also spectrum that is "lightly used."[5] Nowhere does NPSTC define the term "lightly used," but presumably adoption of NPSTC's proposal would require that some level of spectrum use by commercial operators be deemed insufficient to warrant retention of an authorization to operate on that spectrum. In addition to the administrative burdens associated with making such determinations, NPSTC's proposal would significantly undermine the integrity of the FCC's auction program and the secondary market.

Existing NPCS licensees who acquired their licenses at auction, or in secondary market transactions following an auction, valued the spectrum based upon certain factors. Those factors included the knowledge that NPCS licensees were subject to specific build-out requirements set forth in the Commission's Rules, and the expectation that, if they satisfied those build-out obligations and complied with other requirements established prior to the auction, the license would be retained by the licensee and renewed. NPCS operators paid hundreds of millions of dollars to acquire this spectrum fifteen years ago at the first FCC auction, based on the expectation that they would have exclusive rights throughout their market areas as long as they satisfied the applicable construction requirements. The imposition of additional construction obligations after the completion of an auction and licensing of the spectrum would interfere with the ability of prospective auction participants to prepare business plans or budgets, or to judiciously participate in

[5] *See* Petition at p. 1.

spectrum auctions. Uncertainty regarding their rights as licensees to exclusive use of the spectrum would disrupt spectrum valuation and the effective working of the marketplace. The Commission should not take steps to undermine its auction processes, particularly when an auction of paging spectrum is scheduled to commence in the next five months.[6] In addition, to the extent the FCC also seeks to promote a vibrant secondary market, adoption of NPSTC's proposal would undermine that goal, since prospective buyers and lessees would be unable to assign a value to spectrum with any reasonable level of certainty.

Further, adoption of NPSTC's proposal could result in commercially and economically irrational decisionmaking. For example, a licensee may opt to construct in a remote area without regard to the lack of demand for service in that area, at the expense of enhancing or introducing service in another area that does have consumer demand, all in an effort to save a license. Or, a licensee may be forced to sell or lease its spectrum at heavily discounted rates in order to introduce service in certain areas to protect the license, and may lose the flexibility to expand its service into those areas at a future date. The Commission has recognized that adopting a "keep what you use" policy may result in these "unintended and potentially detrimental consequences," noting that carriers have sufficient incentive without regulatory intervention to build-out their networks where it is economically beneficial to do so (*i.e.*, where there is demand for services).[7]

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[6] *Public Notice: "Auction of Lower and Upper Paging Bands Licenses Scheduled for May 25, 2010 – Comments Sought on Competitive Bidding Procedures for Auction 87,*" AU Docket No. 09-205, DA 09-2416, rel. Nov. 30, 2009.

[7] *Facilitating the Provision of Spectrum-Based Services to Rural Areas and Promoting Opportunities for Rural Telephone Companies to Provide Spectrum-Based Services, 2000 Biennial Regulatory Review - Spectrum Aggregation Limits of Commercial Mobile Radio Services, Increasing Flexibility to Promote Access to the Efficient and Intensive Use of Spectrum and the Widespread Deployment of Wireless Services, and to Facilitate Capital Formation*, Report and Order and Further Notice of Proposing Rule Making, 19 FCC Rcd 19078, ¶153.

NPSTC HAS FAILED TO DEMONSTRATE THAT THE PUBLIC SAFETY COMMUNITY NEEDS, OR HAS THE RESOURCES TO DEPLOY, NPCS SPECTRUM TO PROVIDE THE DESIRED SERVICES

NPSTC urges the Commission to reclaim NPCS spectrum from commercial operators and reassign it to public safety operators so that they may provide emergency alert and two-way narrowband services. However, nowhere in its Petition does NPSTC demonstrate that the public safety community lacks access to sufficient spectrum to provide these services. Indeed, public safety has access to approximately 107 MHz of spectrum,[8] and is permitted to provide narrowband services – including services like those discussed in the Petition – over a portion of this spectrum. In addition to not using its own spectrum to deploy the types of services described in the Petition, the public safety community also has not approached commercial operators like AMS to leverage the existing robust commercial networks that have already been deployed. Thus, NPSTC has not demonstrated that the existing public safety spectrum allocations are insufficient to meet its demand for narrowband services, or that commercial networks are insufficient to meet the needs of the public safety community.

The Petition also fails to address what the public safety community has acknowledged, and the Commission has recognized, to be a substantial hurdle to the deployment of new networks – a lack of financial resources. Indeed, the public/private

[8] *Service Rules for the 698-746, 747-762 and 777-792 MHz Bands*, Second Report and Order, FCC 07-132, (rel. Aug. 10, 2007), Statement of Commissioner Robert M. McDowell Approving in Part, Dissenting in Part, *citing* Report to Congress on the Study to Assess Short-Term and Long-Term Needs for Allocations of Additional Portions of the Electromagnetic Spectrum for Federal, State and Local Emergency Providers, Federal Communications Commission ¶5 (rel. Dec. 21, 2005).

partnership adopted for deployment of the broadband public safety spectrum in the 700 MHz band was predicated on addressing this significant hurdle.[9]

THE SERVICES DESIRED BY NPSTC ARE ALREADY BEING PROVIDED

AMS already is using its NPCS spectrum to offer the types of emergency alert services discussed in the Petition.

Critical Elements of Emergency Alert Systems

Emergency situations are ones in which there is a high probability of injury or loss of life from immediate circumstances. In those situations, immediate and effective mass alert systems are crucial. An effective primary mass notification system must have the ability to notify all of those affected in real-time or very near real-time, and provide clear instruction on what they are supposed to do. The system should also have the capability to deliver an "all clear" message when the threat is over. The nine major features of effective primary alerting systems are:

- Speed – time from dispatch of message to device should be counted in seconds.
- Sound – system should provide unmistakable audible alerting (*e.g.*, horns, sirens) followed by clearly understood speech relaying the alert.
- Sight – system should include visual text messages in multiple locations.
- Location – system should be capable of delivering both audible and visual alerts in buildings and outdoor areas over a potentially vast geography.
- Repeatable – should be capable of delivering dynamic follow up information.
- Simple – system should be able to be operated intuitively by persons under extreme stress.
- Reliable – system should use well proven technology with few routing points.
- Affordable – true mass emergencies are rare; the system cost cannot outweigh the benefit.

[9] *Service Rules for the 698-746, 747-762 and 777-792 MHz Bands*, Second Report and Order, FCC 07-132 (rel. Aug. 10, 2007) at ¶396.

- Simultaneous – everyone must receive the information at the same exact time.

Alerting systems that can accomplish the above will for the most part utilize digital wireless technology by which a dispatcher initiates a message that is transmitted to any number of devices located in the effected geographic area. Messaging networks are uniquely well-equipped to provide this type of primary alerting service because they can initiate an audible alert (*e.g.,* siren, horn), supplement that alert with a visual text message and audible verbal message, and also provide mass textual alerts to tens of thousands of messaging devices simultaneously because those messages are broadcast over the messaging carrier network. In the case of large areas such as university campuses and municipalities, messaging technology is the only practical, cost effective method of delivering those messages.

A typical alert system using a messaging network consists of a transmitter, antenna, and user software. The software can reside on a dedicated personal computer or on the existing computer system used by the dispatch center. The software program allows the dispatcher to send the alert information to the transmitter where it is then broadcast to the end point devices. The service is simple to use, sends messages over a proven reliable messaging system capable of delivering tens of thousands of messages simultaneously, and is cost-effective.

In contrast, software-based alerting methods that use public communications mediums and attempt to reach citizens through cell phones, email, landline phones, and local television and radio alerts are not an effective method for primary alerting because of the inherent delays in information delivery and the inconsistency of end user device availability, and are effective only as a means of "secondary" notification in conjunction with a broader alert program. These various methods differ greatly in the time that is

required for the message to be delivered and in the "hit rate" of those that receive the message. While secondary alerting allows people that are not in the immediate area of the emergency to be informed of the event, the user of these types of systems cannot control the process, and therefore the speed at which the messages are delivered and the hit rate of delivered messages are always an unknown. Secondary methods are by their characteristics a shotgun approach to alerting – the user sends out a large number of messages, and hopes that a reasonable number of them get through to the end recipient in time.

These types of secondary notification systems rely on software that contains a database into which the user enters the relevant contact information of prospective end recipients. In an emergency, the user can pull up desired recipients from the data base, enter a specific message and then "send" the messages to the recipients. When the "send" button is clicked, the software begins the process of delivering the emails to the Internet, and the text messages to the various cell phone providers. These software programs were originally designed for relatively small groups (1,000 or less) often receiving non emergency messages, but are now being marketed for very large group applications in emergency situations, and suffer from significant limitations:

- Reliance on outside systems – The software simply sends messages to various third party systems, whose reliability at any given time is unknown and outside of the user's control.
- Slow delivery – Even under the best conditions, large batches of messages will take significant time to be delivered. It is not possible with current technology to batch out bulk text messages to cell phones and PDA's. It is still essentially a serial process. A university or small municipality can easily have 30,000 or more persons that need notification. Larger schools may have 60,000 or more. In today's world of text messaging it is lucky if a major system can reliably send out 10 messages per second in a given geographic area. Assuming that a given cell system may have to handle 25,000 messages, that provider alone can take 25 minutes to deliver those messages. That lag time does not include the software itself, which must batch and deliver

messages to the providers. In sum, under the best conditions, one can expect a minimum of 30 minutes before a large batch of messages is delivered.

- Ongoing Data Base Management – For the software solution to have benefit, it must have a relevant database of recipients. In the case of a university of 30,000 students one can reasonably assume that between students, faculty and employees there will be a turnover of approximately 10,000 recipients per year. This will require the manual entry of 10,000 new recipients and the judicious deletion of 10,000 others. On top of this are the changes to existing recipients if they change phone providers or email accounts. Even systems that require the end recipients to opt in and enter their information themselves will still need the administrator to delete that information when they have left the area. If deletions are not kept current, the data base will balloon in size over just a couple of years and dramatically slow the delivery process. Database management is a recurring cost of a software-based solution.
- Fractional alerting – When sending alerts using text massaging or emails, the user has no control over or knowledge of how many people receive the message. For example, if an intended recipient does not open their email box or look at the text message they will not know of the emergency. If a professor has a classroom policy that all phones be turned off, then no one in that auditorium will be alerted. If the emergency message is sent in the middle of the night it is very likely that few will see it.
- Significant potential for hacking – Software programs that allow for mass messaging are available to anyone. It is a very real possibility that a malicious event could take place whereby a criminal develops a data base of recipients in a given area. False or misleading information can then be sent to large numbers of people that at best is a terrible prank or at worse is a foil to aid a much larger criminal act. If text messaging is an institution's primary alerting tool, their intended recipients become highly vulnerable to a criminal hack.

AMS Provides Innovative Solutions for the Public Safety Community

AMS is at the forefront of innovation in the narrowband data services market sector. The company offers one- and two-way numeric and text paging services and advanced two-way messaging service (allowing customers to send and receive e-mail messages using their advanced two-way pagers), and uses FLEX and ReFLEX technology on its 900 MHz network to provide greater in-building coverage where other wireless technologies may not. AMS also provides emergency mass alert notification services and M-to-M services that may be used to manage and conserve energy resources.

AMS provides a unique mass emergency alert and communication system, the IntelliGuard Program, using the RAVEN suite of products, which work with AMS's vast messaging network to provide simultaneous emergency communications to large groups of users. AMS's RAVEN emergency alert system provides two components of notification simultaneously. First, the RAVEN system provides immediate broad-scale alerts and updates *via* RAVEN-500 and RAVEN*Alert* devices. The RAVEN-500 is a high decibel warning system that can be used indoors or outside. Using AMS's network, signals are sent to the RAVEN-500 to activate its horns or additional features such as strobe lights or digital message signs that may be added for visual alerting. The RAVEN-500 can be used in such settings as public parks, factories, large retail facilities, school campuses, athletic fields, public beaches, golf courses and resorts, or any other public place in which immediate mass notification of impending emergencies is necessary. The RAVEN*Alert* is a compact emergency alerting station. When activated by the AMS network, it emits a loud tone followed by a voice message relaying the emergency notification. The voice message is made possible by state of the art text-to-voice technology allowing displayed messages to be converted to understood speech. Simultaneously, the text of the emergency message is displayed on an LCD screen. Attention is brought to the screen by a flashing red LED as well as flashing backlighting. The audible and visual text, along with audible tones and flashing lights, allow the RAVEN*Alert's* warnings to be received by both hearing- and visually-impaired users. The RAVEN*Alert* is equipped with an external drive so larger digital signs may be attached to the system. The RAVEN*Alert* is ideal for use in any public space where immediate notification of people who may be in harm's way is paramount (*e.g.,* schools,

hospitals, hotels, municipal buildings), and may be mounted to vehicles such as ambulances, fire and EMS vehicles for mobile use.

The RAVEN system also provides individual alerts and updates. Using the messaging network architecture, the RAVEN*Alert* device can simultaneously notify recipients of a pending disaster or other emergency situation in less than one minute and "geo target" messages to specific locations affected by a particular event. Each RAVEN*Alert* device can be programmed with as many as 42,000 common addresses, or groups, and each group or RAVEN*Alert* device programmed with that common address – regardless of the number of devices – will simultaneously receive messages sent to that common address. This delivery system is superior to that of other carriers, whose networks deliver messages sequentially.

AMS also provides firehouse alert and control services which enable fire stations to control up to four devices at once, and simultaneously delivers alphanumeric text messages to digital signs or serial printers. Using AMS's network, a paging cap code is sent to a FAC-4 device from 911 dispatches. The FAC-4 sends signals to activate the other device operations, which frequently include turning on the Public Address amplifier, audible wake-up alarm and the lights, and turning off the firehouse stove. The FAC-4 can accept up to 7 different paging cap codes, and have separate relay and time functions per cap code. This allows for different alerting to be accomplished at the same physical location depending on which cap code is sent, which is helpful when fire and medical crews are housed in the same building. Group call capability allows for multiple fire stations to be alerted at the same time when necessary. The FAC-4 device also is compatible with the RAVEN products and software.

Local government and public safety officials also can use AMS's services to control traffic lights, school lights, traffic information signs, Amber Alert and other signs.

The Petition states that two-way systems are critical. AMS notes that many of its public safety customers use AMS's two-way paging service as an alerting service. AMS's two-way paging service enables a first responder to reply to an alert message, including to confirm receipt of the message and to indicate his or her status in responding to the emergency. AMS offers two-way messaging services in portions of all 50 states, and is continuing to expand the geographic areas of this service offering.

The Petition also asserts that public safety systems require back-up power at every site. AMS has back-up power at some, but not all of its paging facilities. However, in the context of messaging networks, back-up power at every site is unnecessary. Unlike cellular and broadband PCS networks, paging networks make substantial use of simulcasting and "fill-in" transmitters to assure adequate signal penetration in buildings and to cover terrain-shielded areas. In emergency conditions, therefore, not all base stations are usually required to maintain an acceptable level of service. In addition, messaging systems typically use satellite capacity to transport their traffic. Use of those satellite components makes the messaging network less vulnerable to land-based events or emergencies, thus further reducing the need for power back-up at each site.

In sum, AMS already provides the types of services that are described in the Petition as being desired by the public safety community. AMS values the relationships it already has with many public safety organizations, and is eager to continue working with the public safety community to meet its service needs

CONCLUSION

NPSTC's proposal would undercut the FCC's auction processes and the secondary market for spectrum, and would have unintended consequences on network build-out. In addition, NPSTC has failed to demonstrate that the public safety community needs, or has the resources to build-out, reclaimed NPCS spectrum to provide emergency alert services.

WHEREFORE, the foregoing reasons having been duly considered, AMS respectfully requests that the Bureau deny the Petition.

Respectfully submitted,

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